Using Advertisting to Affect Adolescent Drug Use: Findings from the National Youth Anti-Drug Media Campaign Tracking Survey Data

Introduction

THE NATIONAL YOUTH ANTI-DRUG MEDIA CAM-PAIGN (NYADMC) is a large-scale social marketing campaign that uses mass media and other public communications to reach youth ages 12 to 17 with information about drugs of abuse, specifically marijuana. First authorized by Congress in 1998 and reauthorized in 2006, the NYADMC provides national media messages to teens, parents, and other influential adults on the topic of youth drug use.

Since its inception, the campaign has been highly scrutinized. Against a backdrop of declining youth drug use nationally (Johnston, et al. 2009), some studies report that the NYADMC is contributing to the reduction in use (Palmgreen, et al., 2007; Longshore, et al., 2006), while other research suggests that the campaign causes no favorable changes in youth drug use (Hornik, et al., 2003). This briefs adds to the literature on the degree to which the campaign impacts youth drug use by examining the evaluation results from the campaign's tracking study, a methodology in which NYADMC researchers collect and analyze youth data on campaign awareness, drug-related beliefs, intentions, and behaviors.

Campaign background

The NYADMC uses evidence-based approaches from the field of social marketing to position the campaign to attempt to decrease teen drug use. Two of these approaches – theory and brand – are particularly relevant to the tracking study. Theory-based mass media health campaigns are more likely to prompt behavior change than those not founded on theoretical constructs (Noar, 2006). Since its inception, the NYADMC has used the theory of planned behavior (TPB) as a foundation. TPB suggests that

exposure to persuasive information subsequently shifts peoples' beliefs, intentions, and behavior (Azjen & Fishbein, 1980). The beliefs targeted by the NYADMC include:

- Normative perceptions: Increasing accurate perceptions about the prevalence and acceptability of drug use by teens;
- Outcome expectations: Increasing beliefs about the negative consequences of drug use, and conversely, the positive consequences of avoiding drug use; and
- Self-efficacy: Increasing drug resistance and avoidance skills.

The tracking study uses a conceptual model based on the theory of reasoned action, a variant of TPB that excludes self-efficacy (Azjen & Fishbein, 1980).

Social marketing borrowed from commercial marketing the concept of a "brand," which is a pattern of symbols and language that call to the target audience's mind information about and associations with the product. In the case of a social marketing campaign, the product is positive attitude and behavior change (Kotler & Zaltman, 1971). The use of brand in the NYADMC for teens first took shape as "My Anti-Drug," which entailed messages encouraging youth to avoid drugs. In 2005, the NYADMC was rebranded "Above the Influence (ATI)," a brand that incorporates greater information about the social influences, exposure, and pressures that may play a critical role in the initiation and continuation of adolescent drug use (Hansen & Graham, 1991). The tracking study examines campaign effects from an historical standpoint, looking at outcomes in two time periods, including the pre-ATI period when the "My Anti-Drug" brand was in place from July 2000 to October 2005 and the post-ATI period, which followed the launch of the ATI brand and covers November 2005 to the present.

The tracking study

The NYADMC tracking study is a cross-sectional mall intercept study of teens ages 14 to 18 conducted at 25 mall sites across the United States. This study has been in place since 1999. Data are collected from 7 to 10 participants per week per mall, for a total of approximately 7,500 teen respondents per year. The 25 malls in the tracking study are selected from available mall research facilities to be geographically representative of the U.S. population. The study is sample balanced using recruitment quotas to match national race/ethnicity and gender distributions and to fill interview age quotas. Study participants are recruited on the mall floor, and those who agree to participate take the survey on a touch-screen computer in a research facility inside the mall. Data are collected anonymously, and basic demographic items are asked at the end of the survey, including age, last completed grade in school, racial self-identification, family living situation, gender, type of school attended, and residential ZIP code.

Model specification

Our analysis uses structural equation modeling (SEM) to examine the relationship among the intention to use marijuana, attitudes, and subjective norms. We hypothesize that these variables are positively affected by the NYADMC media campaign, as measured by the awareness of campaign advertising. More specifically, we predict that study participants who report increased awareness of the NYADMC ads also report higher levels of anti-drug beliefs or lower intention to use marijuana. The diagram below illustrates the theoretical relationships in the Structural Equation Model.

We summed five dichotomous "yes/no" items to create a unit-weighted measure of general campaign awareness. The items include, "Have you recently seen any advertising that mentions the Anti-Drug?"; "Have you recently seen any advertising that mentions Above the Influence?"; "Have you recently seen or heard any advertising about not giving in to peer pressure or influence to use drugs?"; and "Have you recently seen or heard any advertising against drug use?" We also used three

multi-item composite scores to reflect a latent construct of beliefs about marijuana use. The three indicators represented negative beliefs (behavioral beliefs or outcome expectancies along with the perceived risk of marijuana use), positive beliefs, and perceived normative expectations on the prevalence and social acceptability of marijuana use ("social norms").

A single item assessed the frequency of marijuana use in the past 30 days ("How many times have you used marijuana in the past 30 days?") with response formats ranging from never (0) through 20+ times (5). We used four items to measure intentions to engage in marijuana use. In the pre-ATI period, three additional tests of model fit were conducted replacing the beliefs latent construct with negative, positive, and social norm composite scores, respectively. Separate tests of model fit were done for the pre-ATI period and the post-ATI period.

We also ran a secondary analysis of time series regressions – relating the weekly averages of intention, composite belief scores, and ad awareness – that produced results directionally similar to those of the structural equation model.

Results
### Pro-drug beliefs were correlated with intentions to use marijuana.

In both pre-ATI and post-ATI periods, pro-drug beliefs were strongly correlated with intentions to use marijuana. In the post-ATI period, intention to use was strongly correlated with recent usage (usage was not measured in the pre-ATI period). In both periods, the three belief composite scores (negative beliefs and risks, positive beliefs, and social norms) were significantly related to intentions to use marijuana.

Higher advertising awareness was correlated with less protective beliefs when the campaign was branded "My Anti-Drug."

In the period prior to October 2005, there was a significant inverse relationship between awareness of NYADMC advertising and the latent belief construct. In other words, higher ad awareness correlated with beliefs that were more pro-drug.

After launch of the "Above the Influence" brand, higher NYADMC awareness was correlated with more protective drug beliefs.

In the period from November 2005 to December 2006, there was a significant direct relationship between awareness of NYADMC advertising and the latent belief construct, meaning that higher ad awareness was correlated with beliefs that were more anti-drug. When the beliefs' latent construct was replaced with the respective composite scores for belief type (negative,

Figure 1: NYADMC tracking study/SEM Model
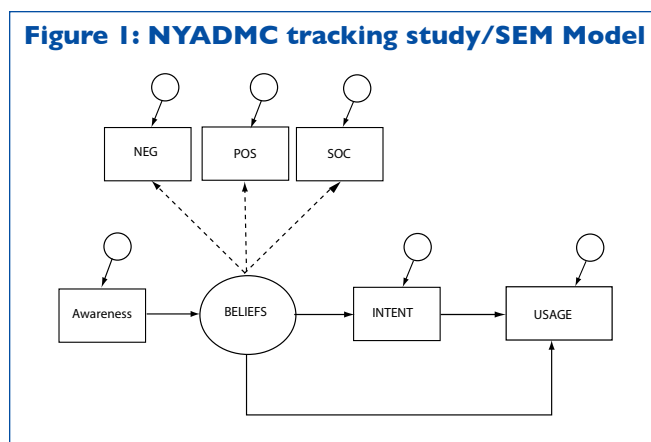
Source: Authors' computation of the NYADMC tracking study data

positive, and social norm), the relationship between ad awareness and belief type was direct and significant for positive and social norm beliefs but insignificant for negative beliefs.

Conclusion

These findings suggest that awareness of "Above the Influence" advertising is linked with youth beliefs and characteristics associated with lower drug use risk, particularly accurate social norm beliefs and positive outcome expectations of the benefits of avoiding drug use. These findings are particular to the "Above the Influence" brand. In fact, higher advertising awareness of the now defunct "My Anti-Drug" brand related to beliefs with higher drug risk. A possible explanation of this finding is provided by Elaboration Likelihood Theory (Petty & Cappoico, 1999), which suggests that advertising messages are most likely retained if involvement with the message is high. Because "My Anti-Drug" is a brand that actually contains the word "drug" in it, committed drug users may report higher retention of the ad than non-users. Taken together, the results of this analysis provide preliminary evidence of effectiveness of the NYADMC in general and the ATI brand in particular.

Citations

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